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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,580	03/23/2004	David J. Brady	84,913	4119

38092 7590 07/22/2005

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EXAMINER	
PRESTON, ERIK D	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/807,580	BRADY ET AL.	
	Examiner	Art Unit	
	Erik D. Preston	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: In the 2nd and 3rd lines of the claim, the phrase "...shaft..." lacks proper antecedent basis and, for examination purposes, will be interpreted as saying "...output shaft..." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9 & 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Pinson (US 4498032).

With respect to claim 9, Pinson teaches an electric motor having a rotor (Fig. 8, #12) undergoing rotation about an axis in response to torque applied thereto by force transfer means (Fig. 8, #10) through which drive forces imparted to actuators (Fig. 8, #94, 96 & 98) undergo conversion into torque applied to the rotor, control means for selectively varying said conversion of the drive forces into the torque, comprising: track means (the support for the actuators that inherently exists) for establishing guide paths at an angle to the rotor axis; and positioning means (the actuators coils as seen in Fig. 8) operatively connected to the actuators for displacement thereof along the guide paths

to different positions relative to the force transfer means at which the drive forces undergo aid conversion into the torque applied to the rotor.

With respect to claim 10, Pinson teaches the combination of claim 1, wherein said force transfer means includes: A plurality of circular discs of different diameters (Fig. 10, #162,164,166,168) fixed to the rotor having indented peripheries engaged by the actuators at said different positions along the guide paths

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4,6,7,9 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conrad et al. (US 6781264) in view of Pinson (US 4498032).

With respect to claim 1, Conrad teaches a torque generating electric motor comprising: An output shaft (Fig. 1, #60) having a rotational axis; force transfer means (Fig. 1, #50) mounted on said shaft for conversion of drive forces into torque applied to the shaft; and a rotation resistance means (Fig. 1, #15) in operative engagement with the output shaft for resisting rotation imparted thereto during deenergization of the force transfer means, but it does not teach an actuator means engageable with said force transfer means for imparting said drive forces thereto in response to energization thereof, or positioning means mounting the actuator means in operative relation to the force transfer means for displacement thereof relative to said rotational axis to vary the conversion of the drive forces imparted during said energization of the actuator means. However, Pinson teaches an actuator means (Fig. 8, #94, 96 & 98) engageable with a

force transfer means (Fig. 8, #10) for imparting said drive forces thereto in response to energization thereof, and positioning means (the electrical coils of the actuators as seen in Fig. 8) mounting the actuator means in operative relation to the force transfer means for displacement thereof relative to said rotational axis to vary the conversion of the drive forces imparted during said energization of the actuator means (Col. 8, Lines 48-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the force transfer means of Conrad in view of the force transfer means as taught by Pinson because it provides a high torque motor that does not require a feedback system to determine its shaft position (Pinson, Col. 1, Lines 11-31).

With respect to claim 2, Conrad in view of Pinson teaches the electric motor of claim 1, and Conrad teaches electromagnetic means (Fig. 1, #150) for magnetically negating rotational resistance imposed on the output shaft by the rotation resistance means during said deenergization of the actuator means.

With respect to claims 3 & 6, Conrad in view of Pinson teaches the electric motor of claims 1 & 2, and Pinson teaches said force transfer means comprising: Discs of different diameters (Fig. 10, #162,164,166,168) splinted to the output shaft having indented peripheries selectively engaged (Col. 7, Line 67 – Col. 8, Line 2) by the actuator means in response to said displacement thereof by the positioning means.

With respect to claims 4 & 7, Conrad in view of Pinson teaches the electric motor of claims 1 & 3, and Pinson teaches that said actuator comprises a plurality of electromagnetically energized devices having driving push rods projecting therefrom into force transferring engagement with one of the discs of the force transfer means.

Claims 5 & 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Conrad et al. (US 6781264) in view of Pinson (US 4498032) further in view of Carlson (US 6186290). Conrad in view of Pinson teaches the electric motor of claims 2 & 4, but it does not teach said rotation resistance means comprising: A rheological braking unit. However, Carlson teaches a rheological braking unit (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the rotation resistance means of Conrad in view of the rheological braking unit as taught by Carlson because it can advantageously provide variable controlled torques usable for braking (Col. 1, Lines 12-17).

Response to Arguments

Applicant's arguments filed 06/06/2005 have been fully considered but they are not persuasive. Applicant argues that the force applied by the actuators of Pinson is not converted to torque applied to the shaft through the cam discs by a selective displacement of said push rods along a path at an angle to the axis of the shaft. However, Pinson does teach selectively displacing said push rods (Col. 7, Line 45 – Col. 8, Line 2) along a path (the direction in which the rod traverses) at an angle to the shaft (in this case an angle of 90° with respect to the rotational axis of the rotor).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik D. Preston whose telephone number is 571-272-8393. The examiner can normally be reached on Monday through Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

07/15/2005

DARREN SCHUBERG
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